

THE SENTINEL

CONTROLLING PENDULUMS.

Electrical Devices For Regulating Astronomical Clockwork.

In astronomical work it is essential that the pendulums of the standard clocks, which govern the movement of telescopes and cameras, shall themselves be kept accurate by constant comparisons with the never changing "clock stars." After all the ordinary means for securing this accuracy, such as mercury cups and the movement of the "bob" in water form, are exhausted, resort is made to a simple yet very accurate device. This is nothing more or less than a little shelf fastened upon the rod of the pendulum, on which weights can be placed or taken off, making it go faster or slower without running the risk of deranging the works or affecting the experiments, as might be the case if the pendulum were too much handled.

At the temporary station of the Harvard observatory at Mandeville, Jamaica, where Professor W. H. Pickering, who is in charge, is using a novel horizontal telescope with a focal length of no less than 135 feet, instead of the weights on a shelf, which cannot be adjusted on account of the distance of the operator from the clock, an electrical device is employed. The observer has a rheostat by his side, which controls the amount of current with a magnet placed below the pendulum, the pendulum carrying an arc shaped armature, on which the magnet exerts a constant pull. This pull varies in strength as the rheostat is moved, producing the same effect as the pull grows stronger or weaker as if more weights had been put on or taken off the pendulum shelf, as in the ordinary case. This device in its original and more primitive form was first employed at the Royal observatory at Greenwich, England.

Electricity is widely resorted to by astronomers to regulate the more mechanical part of observing, perhaps nowhere more generally than at the Harvard observatory in Cambridge and its permanent station in Arequipa, Peru, as well as its temporary station in Jamaica. At all three of these places on every clear night various kinds of photographic telescopes are taking pictures at varying intervals and at different times without the aid of human hands, but by means of electricity regulated by intricate and accurate clockwork.

Smoking Made Harmless.

A surgeon general in the German army communicates to the Berlin Militar Zeitung an account of a process by which it is asserted that smoking may be rendered a harmless amusement. By the method described, which consists in the treatment of the tobacco leaves with tannin and a decoction of Origanum vulgare before they are made up into cigars, the nicotine they contain becomes so transformed as to render it harmless to the human system. According to the account given, experiments have been made with the prepared tobacco upon patients who had the greatest aversion to tobacco in any form and invariably suffered from nausea immediately they began to smoke. These, however, smoked in succession each three cigars made of the prepared tobacco, not only without experiencing any inconvenience, but without any alteration in their pulse, breathing or temperature. Not the slightest symptom, in fact, of nicotine poisoning was to be detected, although most exact and careful observations were made as the smokers puffed their way through the three cigars.—St. James' Gazette.

New Dark Lantern For Warships.

The British battleship Magnificent and the cruisers Arrogant, Niobe and Pelorus are to be fitted with a special type of stern light before they rejoin the squadron. The new light will be so arranged by the aid of a shade and reflectors as to cast a reflection immediately in the wake of the ship and perceptible only to a vessel following immediately astern, and by means of elevating gear the reflection may be cast immediately under the light itself or at various ranges to meet the requirements of a squadron steaming ahead. With this light it will now be possible to conceal all the other lights in a squadron and then to perform in safety a series of tactics which otherwise it would be dangerous to attempt.

An Eagle That Fishes in a City.

A handsome bald eagle spends two or three hours every morning catching fish at a place within the city limits in plain view of the passengers on a trolley car line. He perches on an oak tree near the shore of a lake in which carp and catfish are plentiful. When his "eagle eye" spies a fish in the shallow water near the shore, down he swoops and, seizing the fish in his talons, flies back to the tree, where he eats and then watches for another victim. The bird of freedom has chosen the position well, as the tree is on the extreme end of a long peninsula which no one can approach without being visible for half a mile.—Portland Oregonian.

Canada's Population.

Illinois is pulling up on Canada, and if the rate of increase in the next ten years is maintained in the next ten years at the figure which has prevailed for the last ten Illinois will be close to Canada's heels at the time the next decennial census is taken. These are comparisons which always have an ominous look for Canadians.—St. Louis Globe-Democrat.

There is more Catarrh in this section

of the country than all other diseases put together, and until the last few years was supposed to be incurable. For a great many years doctors pronounced it a local disease, and prescribed local remedies, and by constantly failing to cure with local treatment, pronounced it incurable. Science has proven catarrh to be a constitutional disease, and therefore requires constitutional treatment. Hall's Catarrh Cure, manufactured by F. J. Cheney & Co., Toledo, Ohio, is the only constitutional cure on the market. It is taken internally and does from 10 drops to a teaspoonful. It acts directly on the blood and mucous surfaces of the system. They offer one hundred dollars for any case it fails to cure. Send for circulars and testimonials. Address, F. J. CHENEY & CO., Toledo, Ohio. Sold by Druggists, 75c. Hall's Family Pills are the best.

FIVE STATES IN FIVE HOURS.—The

Royal Limited, beautiful, swift and sure, leaving Washington, B. & O. R. R. Station, New Jersey Avenue and C Street, daily, 9 p.m. arriving New York 5 p.m. Exquisite dining and cafe car service.

THE TROTTER RECORD.

Frank Erwin of Kansas City will campaign the pacer You Bet, 2:12½, in 1901.

Charley G. full brother to the pacer Rex Direct, 2:10, and De Veras, 2:11½, does nothing but trot.

The Stiles bill, legalizing betting at race tracks, was beaten in the Pennsylvania senate by a tie vote—17 to 17.

Frank Voorhees has been engaged as trainer for the youngsters at Mount Kisco. He was formerly at Village farm and later at Empire City farm.

Ollie Elisman, the trainer, who raced Red Cliff, the trotter George Levitt lately secured for A. S. Bigelow, Boston, says the horse will get a record of 2:07 if raced in 1901.

Whisper, dam of Zombro, 2:11, has a brown colt by Stan B, 2:11½, which has been named General Chaffee, in honor of the commander of the United States forces in China.

B. W. Johnson, St. Blaise, Tenn., is jogging quite a good bunch of horses on his own track. He campaigned a small string on the fair circuit last fall, meeting with a fair share of success.

Nelly A, 2:13, by Wilkes Boy, has a filly by Adbell, 2:23. This mare had a yearling record of 2:20½, and perhaps it is the only case of a horse and mare with records in the list at that tender age being coupled.

One of the most dangerous candidates for the M. & M. is the 5-year-old gelding Chase by Keeler, dam Euola by Astell, second dam Anna Thomas by Cyclone. Last year he showed a mile in 2:15½. The gelding is owned by J. L. Drullen, Bardonia, Ky., and is now in Marvin's stable.

THE FASHION PLATE.

Tiny Dresden roses are very much used in millinery.

Nun's veillings with shiny colored silk borders are among the new materials. Flowers carefully wired are made into bow effects for the side and back of hats.

Tulle which is patterned in the form of fish scales over a shimmering foundation of gold tissue is one of the millinery novelties.

A very stunning parasol is made of turquoise blue taffeta made to imitate the effect of the turquoise matrix, while the handle of ivory is decorated with turquoise.

Lace coats in cream tint made over silk of the same color are one of the elegancies of fashion in the way of wraps. They are three-quarter length, and the sleeves are bell shape.

The latest evening coiffure shows a soft puff around the face, broken by a few little curls at one side and loose knots arranged low at the nape of the neck. One large rose is worn at one side of the front.

One must be blessed with a fine discrimination in these days in order to choose the latest and most fashionable tint of white, which is called champagne or white white, as you prefer, and is especially attractive because of its warm tinge.

Gauze ribbon in narrow widths is much used for ruchings on summer gowns, and other very pretty effects in trimming are made with some of the narrow fancy ribbons which come in pretty combinations of color and also with little jewels through the center.—New York Sun.

ITEMS OF INTEREST.

There are now half a million members of the French Legion of Honor. The population of France is 38,208,000, of whom just one-third live in towns of over 5,000 inhabitants.

Golden and diamond weddings were celebrated by 614 couples in France last year, and the state contributed medals to each husband and wife.

A stone tablet duly inscribed now marks in old Cambridge, Mass., the site where formerly stood Longfellow's "spreading chestnut tree" and "village smithy."

Only twice in exactly 200 years was the Prussian crown worn. Frederick I placed it upon his own head as a token of divine right, but the custom was not reverted to until the time of William I. The population of the Isle of Pines is 3,199, composed of 2,000 Cubans, 105 Spaniards and 14 others. Their citizenship is classified as 2,818 Cubans, 32 Spaniards, 234 in suspense and 15 aliens.

A prize of \$250 for the best essay on Brian Borroime written in Irish is offered by the Irish Literary society. The writer must be under 40 years of age and is limited to 10,000 words. Sir Thomas Lipton provides the money.

ORCHARD AND GARDEN.

Keep the orchard clear of brush. As with other products, the best fruit brings the best profit.

Cutting back of roses produces, as a rule, fewer blooms of fine quality. Have a sufficient number of varieties to keep up a supply of fruit through the season.

When strawberries of the highest excellence are desired, all the runners should be kept off.

Trees and shrubs may be set out as late as the leaves have not pushed out. After that it is of doubtful success.

A weak solution of paris green is one of the best with which to spray the apple and pear trees for the codlin moth.

Grapes vines cling to wires much better than to other supports; therefore they are to be preferred to a slat trellis.

While sheep do well in the orchard, as they eat the wormy apples, yet there is always the risk of their gnawing the trees to ruin.

The life of an apple tree is shortened if it grows in a poor, exhausted soil or one that is not properly drained.—St. Louis Republic.

WANTED—Capable, reliable person in every county to represent large company of solid financial reputation, \$500 salary per year, payable weekly; \$5 per day absolutely sure and all expenses; straight, bona fide, definite salary, no commission; salary paid each Saturday and expense money advanced each week. STANDARD HOUSE 354 E. Dearborn street, Chicago.

SUMMER TOURS VIA BALTI-

more & Ohio R.R. Tickets now on sale to all principal summer resorts east of the Ohio River. Special excursion tickets to Buffalo and Niagara American Exposition, and to Niagara Falls now on sale. For further information apply to offices Nos. 707 17th street, 619 Pa. Ave., and Depot, N. J. A. & C. Street regarding time of trains, routes and rates.

WASHINGTON-CLEVELAND SLEEPER Via B. & O.—Quick service and superior accommodations daily on 8:30 p.m. train, without change, arriving Cleveland 10:30 next morning.

TRAVEL, A LUXURY.—The Royal Limited finest day train in the world, leaving Washington B. & O. Station, New Jersey Avenue and C Street, daily, 9 p.m. arriving New York 5 p.m. arrives New York 5 p.m. Splendid dining and cafe car service.



CLAUSEN & PRICE BREW-

ING CO.

NEW YORK BREWERY.

59th St and 11th Ave.

NEW YORK

XX, XXX Ales and Porter for City and

Exportuse.

THE JACOB HOFFMANN

BREWING CO.

206, 208, 210, 212 E. 55th Street.

NEW YORK.

ATLANTIC BREWERY.

NEW YORK.

RUBSAM & HORMANN

BREWING CO.

Stapleton, Staten Island, N. Y.

No Family should be without

THE FAMOUS

BECHTEL BREW.

Best Quality Malt & Hops Used Only.

In Bottles. It is Refreshing, Nutritious,

and Beneficial. A Trial is our Best Argument.

THE GEO. BECHTEL

BREWING CO.,

Stapleton S. I. N. Y.

The Bachmann Brewing Co

First Prize Centennial Lager Beer

CLIFTON BREWERY

STATEN ISLAND

Post Office ROSEBANK, N. Y.

N. SEITZ'S SON

BROOKLYN CITY BREWERY

Established 1846.

259-264 MAUER ST.

BROOKLYN.

JOHN EICHLER

BREWING CO.

Brewery and Bottling Department Third Ave. and 169th St

Telephone Connection

NEW YORK

WILLIAM SIMON

BREWING COMPANY.

BREWER & MALTSTER,

BUFFALO N. Y.

THE CLEVELAND & SANDUSKY BREWING CO.

F. W. GERING, President
JACOB KUEBELER, 1st Vice Pres't
ERNEST MUELLER, 2d Vice Pres't
WM.-H. CHAPMAN, Sec'y and Treas

American Trust Building

CLEVELAND, O.

BORN & CO.

Proprietors of the

CAPITAL BREWERY

Brewers and Bottlers of

LAGER BEER.

No 579 South Front Street

Columbus, O.

THE GRASSER & BRAND

BREWING COMPANY.

Brewers and Bottlers of Celebrated

Bohemian, Pilsener, Lager and

Export Beer.

TOLEDO OHIO

IMPERIAL

FOR HOTELS, CLUBS & FAMILY USE

ALE PORTER

LAGER BEER

281 WEST 107th ST. NEW YORK

NEW YORK

ANHEUSER-BUSCH'S

Malt Nutrine

It puts color in the cheeks, sparkle in

the eyes, braces mildly. Assimilable by

the weakest stomach, invigorating, re-

freshing. A boon to nursing mothers.

Prepared by

Anheuser-Busch Brewing Ass'n

St. Louis, U. S. A.

WM. J. LEMP

BREWING CO.

ST. LOUIS - - - MO.

REYMANN

BREWING CO.

BREWERS AND BOTTLERS

WHEELING W. VA

J. D. PARSONS & SON

Contracting

Engineers

Architects,

Millwrights

and Machinists

16th and Poplar Streets,

PHILADELPHIA, PA.

Plans and Specifications furnished

for our improved Gravity System for

Breweries.

Builders of modern Machinery and

Millwright work for Breweries, Malt and

Elevator Houses.

Philadelphia, Pa.

Newport, Ky

THE PH. ZANG

BREWING COMPANY.

ROCKY MOUNTAIN BREWERY,

DENVER, COLO.

Established 1890.

A Roman Triumvirate.—Purity,

Excellence, Reliability. We are going

to maintain the High Standards upon

which the individual plants have gained

their remarkable reputation for the

excellence of their wares.

Springfield Breweries Co.,

Consisting of the

Springfield Brewing Co., now Springfield Branch

Highland " " " " " " " "

Hamden " " " " " " " "

Chicopee " " " " " " " "

Consumers " " " " " " " "

Consumers " " " " " " " "

THE ISAAC LEISY

BREWING CO.

CLEVELAND, O.

Otto I. Leisy, Mgr.

METZ BROS.

BREWING CO.

"The Old Reliable."

OMAHA, NEB.

TANNHAEUSER BEER.

UNQUESTIONABLY THE
FINEST LIGHT BEER EXTANT.

THE TANNHAEUSER BEER

is brewed from the Finest Pale Canada West Barley Malt and Saazer Hops,

and especially recommended for its tonic and nutritive qualities.

The BERGNER & ENGEL BREWING COMPANY received Two Medals at the Centennial Exhibition, 1876, and was awarded the Grand Prize at the Universal Exposition in Paris, 1889, highest award and Diploma of Honor, Brussels Exposition, 1889, Grand Prize and Grand Gold Medal, Paris Exposition, 1889, for award at the World's Fair, Chicago, 1893, and Grand Prize at the International Exposition, Antwerp, 1894.

THE BERGNER & ENGEL BREWING CO

PHILADELPHIA, PA.

THE ISAAC LEISY

BREWING CO.

CLEVELAND, O.

Otto I. Leisy, Mgr.

Established 1890.

THE PH. ZANG

BREWING COMPANY.

ROCKY MOUNTAIN BREWERY,

DENVER, COLO.

Established 1890.

A Roman Triumvirate.—Purity,

Excellence, Reliability. We are going

to maintain the High Standards upon

which the individual plants have gained

their remarkable reputation for the

excellence of their wares.

Springfield Breweries Co.,

Consisting of the

Springfield Brewing Co., now Springfield Branch

Highland " " " " " " " "

Hamden " " " " " " " "

Chicopee " " " " " " " "

Consumers " " " " " " " "

Consumers " " " " " " " "

Consumers " " " " " " " "

Consumers " " " " " " " "

Consumers " " " " " " " "